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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,586	06/17/2005	Kenji Saito	2005_0635A	4361

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EXAMINER	
SCRUGGS, ROBERT J	

ART UNIT	PAPER NUMBER
3723	

MAIL DATE	DELIVERY MODE
12/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,586	SAITO ET AL.	
	Examiner	Art Unit	
	ROBERT SCRUGGS	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-11 and 17-19* is/are pending in the application.

4a) Of the above claim(s) *2 and 12-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/5/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on May 5, 2008 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-11 and 17-19 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. (previously cited) in view of Noguchi et al. (previously cited), Yoneda (cited by applicant) and Miller (2951096). In reference to claims 1, 6-11, 17 and 18, Higuchi et al. and Noguchi et al. as mentioned in the applicant's specification (see specification, pages 3-6) disclose the known process of surface treating an inner surface of a vacuum member by first mechanically polishing the vacuum member with a liquid medium containing hydrogen atoms, then subjecting the vacuum member to a chemical or electrochemical polishing process. Higuchi et al. and Noguchi et al. also disclose the use of an oxidizing material formed as water which could be added to the liquid medium (see paragraph 6 of Higuchi et al.) however Higuchi et al. and Noguchi et al. lack a liquid medium absent of any hydrogen atoms where said liquid medium being a saturated hydrocarbon in a molecule of which the hydrogen atom or hydrogen atoms

are all substituted with a fluorine atom or fluorine atoms. However, Yoneda teaches of providing a solution intermingled with a polishing medium (Paragraph 8), said non-aqueous solution being formed from various types of fluorocarbons (Paragraph 12), since perfluorocarbons are examples of fluorocarbons which have had their hydrogen atoms replaced by fluorine atoms the examiner believes this reference meets this limitation. Also, Miller teaches that perfluorocarbons can be formed from saturated or unsaturated hydrocarbons (Column 1, Line 32) at various temperatures (Column 3, Lines 47-49) and pressures. (Column 4, Lines 1-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the liquid medium used in the known process, of Higuchi et al. and Noguchi et al. with a liquid medium formed as a saturated hydrocarbon under ordinary pressure and ordinary temperature wherein the hydrogen atoms are replaced with fluorine atoms, as taught by Yoneda and Miller, in order to provide non-aqueous liquid that is non-flammable and explosion proof thereby more effectively carrying out a polishing process. The examiner would also like to note that claim 1 discloses a vacuum member that is "mechanically polished" but the claim does not include a polishing media having abrasives. It is a little vague in whether the claim requires abrasive material. Furthermore, is the only step required in this process mechanically polishing? Assuming arguendo, that Miller does not teach a saturated hydrocarbon at a ordinary temperature and pressure, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum are workable ranges involves only routine optimization and experimentation to one of ordinary skill in the art. *In re Aller,* 105 USPQ 233. Here one

could select the temperature and pressure to be any level according to the desired characteristics needed by the user to accomplish the intended task.

In reference to claims 3-5, Higuchi et al. and Noguchi et al. as mentioned in the applicant's specification disclose the same structure of the vacuum member (see specification, pages 3-6).

4. Claim 19, is **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. (previously cited) in view of Noguchi et al. (previously cited), Yoneda (cited by applicant), Miller (2951096) and Tsuchiya et al. (2002/0093002). Higuchi et al. and Noguchi et al. disclose the claimed invention previously mentioned above, but lack, an oxidizing agent formed as nitric acid. However, Tsuchiya et al. teach that it is old and well known in the art to provide an oxidizing agent with nitric acid (Paragraph 38). One of ordinary skill in the art could have applied the known technique of having an oxidizing agent formed with nitric acid, as taught by Tsuchiya et al., in the same way to the device, of Higuchi et al. or Noguchi et al., and the results would have been predictable. In this situation, one could provide a polishing medium having increased accuracy and efficiency.

Response to Arguments

Applicant's arguments filed August 19, 2008 have been fully considered but they are not persuasive.

5. Applicant contends that, **"However, Yoneda does not describe the liquid medium recited in Applicants' claims, i.e. a saturated hydrocarbon in a molecule of which a hydrogen atom or hydrogen atoms are all substituted with a fluorine atom or fluorine atoms."**

a. However, the examiner respectfully disagrees with this statement. Yoneda teaches of using fluorocarbons which by definition have had the hydrogen atoms replaced by fluorine atoms. The examiner believes that the reference does sufficiently teach of replacing hydrogen atoms with fluorine atoms therefore the examiner believes the rejection is proper and thus maintained.

6. Applicant contends that, **"Thus, the technical field of Miller is quite different from that of Applicants' claimed invention. Miller is merely a reference which shows the general knowledge in the art, and the reference is patentably distinct from Applicants' claimed invention. Therefore, Miller does not remedy the deficiencies of the other references, as discussed above, lit is worth noting that the Miller reference has a date of 1960. Given the age of the reference, if the combination asserted by the Examiner was obvious, it is reasonable to assume there would be a reference more directly on point.] Thus, it cannot be found that Miller, as a general knowledge reference, destroys the unobviousness of Applicants' claimed invention."**

b. However, the examiner respectfully disagrees with this statement. Miller was used as a general teaching that it is known in the art to form a saturated or

unsaturated fluorocarbon compound. The particular problem being addressed with the references is using a fluorocarbon compound therefore the technical problem is similar and can be used as a teaching thus the examiner believes the rejection is proper and thus maintained.

7. Applicant contends that, **"As the Examiner is certainly aware, a showing of unexpected and superior results is sufficient evidence of non-obviousness. (Please see MPEP 716.02(a)). Thus, it is asserted that Applicants' showing of superior results overcomes any asserted case of obviousness."**

c. However, the examiner respectfully disagrees with this statement. While the applicant provides a statement of unexpected results the combination would also create this effect. The combination uses different motivation which is to provide a non-flammable and explosion proof solution thereby more effectively carrying out a polishing process. Since the combination provides different reasons form combining the examiner believes that the rejection is proper and thus maintained.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Specifically, the applicant added new claims 17-19 and claim 19 required the use an additional reference. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT SCRUGGS whose telephone number is (571)272-8682. The examiner can normally be reached on Monday-Friday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RS

/Joseph J. Hail, III/
Supervisory Patent Examiner, Art Unit 3723